

SEP 22 2006

Application No. 09/649,122

Filed: August 28, 2000

TC Art Unit: 3626

Confirmation No.: 7040

AMENDMENT TO THE CLAIMS

1. (currently amended) A method of forecasting business volume and workforce requirements with the aid of a computer system, comprising:

defining a business structure in the computer system;

defining a forecast structure in the computer system, wherein certain hierarchical levels of the forecast structure map to corresponding hierarchical levels in the business structure;

forecasting business volume in the computer system for a predefined duration, responsive to a first set of historical data, and to the business and forecast structures;

forecasting a traffic pattern in the computer system for the predefined duration, responsive to a second set of historical data; and

calculating workforce requirements in the computer system for the predefined duration, based on the forecast business volume and on the forecast traffic pattern,

wherein the step of calculating workforce requirements includes resource leveling, and

wherein the step of resource leveling comprises

determining valleys in a preliminary schedule,

ranking the valleys based on their depth and width,

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assigning at least one unassigned task to a highest-ranked valley, and

repeating the steps of determining peaks, determining valleys, ranking the valleys and assigning at least one unassigned task;

wherein each valley's rank is computed as  $(D/W)*C$ , wherein

D is the valley's depth;

W is the valley's width; and

C is the valley's rounding cost.

2. (original) The method of Claim 1, wherein a portion of the first set of historical data is by day.

3. (original) The method of Claim 1, wherein a first portion of the first set of historical data is by period.

4. (original) The method of Claim 3, wherein a period is fifteen minutes.

5. (original) The method of Claim 4, wherein a second portion of the first set of historical data is by day.

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6. (original) The method of Claim 1, wherein forecasting business volume comprises using a daily trend forecasting algorithm.

7. (original) The method of Claim 1, wherein forecasting business volume comprises using an exponential smoothing algorithm.

8. (original) The method of Claim 1, wherein forecasting business volume comprises forecasting daily quantities over a predefined duration.

9. (original) The method of Claim 1, wherein forecasting business volume is performed at plural levels of the forecast structure.

10. (original) The method of Claim 1, wherein at least one hierarchical level of the forecast structure which maps to a corresponding hierarchical level in the business structure is location.

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11. (previously presented) The method of Claim 10, further comprising subdividing in the computer system a location into a plurality of sub-locations.

12. (original) The method of Claim 1, wherein at least one hierarchical level of the forecast structure which maps to a corresponding hierarchical level in the business structure is department.

13. (original) The method of Claim 1, wherein at least one hierarchical level of the forecast structure which maps to a corresponding hierarchical level in the business structure is job.

14. (original) The method of Claim 1, wherein the certain hierarchical levels in the forecast structure are at different depths within the forecast structure than the corresponding hierarchical levels in the business structure.

15. (canceled)

16. (canceled)

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17. (canceled)

18. (canceled)

19. (canceled)

20. (canceled)

21. (canceled)

22. (currently amended) The method of Claim 1, wherein calculating workforce requirements includes task level consolidation.

23. (original) The method of Claim 22, wherein task level consolidation comprises:

scheduling specific tasks within a job, wherein each task is associated with a standard; and

consolidating the scheduled tasks into a job schedule.

24. (original) The method of Claim 23, wherein a decision to apply a standard is based on economy of scale.

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25. (canceled)

26. (canceled)

27. (canceled)

28. (canceled)

29. (previously presented) The method of Claim 1, further comprising:

determining in the computer system peaks in the preliminary schedule, wherein determining valleys is responsive to the determined peaks.

30. (previously presented) The method of Claim 1, wherein the at least one unassigned task is assigned to a lowest portion of the highest-ranked valley.

31. (previously presented) The method of Claim 1, wherein calculating workforce requirements includes dynamic standard

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assignment, wherein different metrics are selected at different times.

32. (original) The method of Claim 31, wherein at least one task is associated with a plurality of standards.

33. (original) The method of Claim 31 wherein selection of metrics at a specific time is responsive to conditions at the specific time.

34. (original) The method of Claim 33, wherein at least one condition is outdoor temperature.

35. (previously presented) The method of Claim 1, further comprising:

defining an event calendar in the computer system; and

selecting at least one event from the event calendar such that the event is considered in the step of forecasting.

36. (original) The method of Claim 35, wherein, if a selected event does not occur during the forecast period, its influence is

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removed from the forecast if the event occurred during a corresponding period from which the historical data was taken.

37. (original) The method of Claim 35, wherein if a selected event occurs during the forecast period, its influence is added to the forecast if the event did not occur during a corresponding period from which the historical data was taken.

38. (previously presented) The method of Claim 35, further comprising:

defining an event in the computer system to be associated with at least one category in the forecast structure.

39. (original) The method of Claim 35, wherein a plurality of events can be selected for a particular day.

40. (previously presented) The method of Claim 35, further comprising:

when calculating forecast values for an upcoming day marked with an event, searching in the computer system for dates marked with the same event marker;



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upon finding such a date, calculating in the computer system a ratio of volume activity associated with said date to the volume activity of plural days surrounding said date;

calculating in the computer system a forecast for the upcoming day as if it were a normal, non-event day; and

adjusting in the computer system the forecast by the calculated ratio.

41. (original) The method of Claim 40, wherein the steps of calculating a ratio, calculating a forecast, and adjusting the forecast are executed for each business volume.

42. (original) The method of Claim 1, wherein business volume types are user-definable.

43. (original) The method of Claim 42, wherein business volume types comprise any or all of sales volume, number of transactions, and number of items.

44. (previously presented) The method of Claim 1, further comprising:

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tracking in the computer system only a subset of volume types at a particular location.

45. (original) The method of Claim 1, wherein the forecast structure comprises plural hierarchical levels of categories.

46. (canceled) A business volume and workforce requirements forecasting system, comprising:

a business structure;

a forecast structure, wherein certain hierarchical levels of the forecast structure map to corresponding hierarchical levels in the business structure;

a volume forecaster which forecast business volume responsive to historical data and to the business and forecast structures; and

a workforce requirements engine which forecasts workforce requirements responsive to the forecast business volume,

wherein the workforce requirements engine performs resource leveling.

47. (canceled)

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81. (canceled)

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